

HP Docket No. 10004754-1

REMARKS

Applicant(s) appreciate the Office's review of the present application. In response to the Office Action, the cited references have been reviewed, and the rejections and objections made to the claims by the Examiner have been considered. The claims presently on file in the present application are believed to be patentably distinguishable over the cited references, and therefore allowance of these claims is earnestly solicited.

In order to render the claims more clear and definite, and to emphasize the patentable novelty thereof, claims 1-2, 5, 7-8, 12-14, 19, and 22 have been amended, claims 3-4, 9-11, and 18 have been cancelled without prejudice, and new claims 23-29 have been added. Accordingly, all claims presently on file in the subject application are in condition for immediate allowance, and such action is respectfully requested.

Rejections

Rejection Under 35USC Section 102(b)

Claims 1-2, 5-8, 13-17, 19-20, and 22 have been rejected under 35 USC Section 102 (b), as being anticipated by U.S. patent 5,140,348 to Jamzadeh et al. ("Jamzadeh"). Applicants respectfully traverse the rejection and request reconsideration based on the amendment to claim(s) 1-2, 5, 7-8, 13-14, 19, and 22 and features in the other claims which are neither disclosed nor suggested in the cited reference.

As to a rejection under 102(b), "[a]nticipation is established only when a single prior art reference discloses expressly or under the principles of inherence, each and every element of the claimed invention." *RCA Corp. v. Applied Digital Data Systems, Inc.*, (1984, CAFC) 221 U.S.P.Q. 385. The standard for lack of novelty, that is for "anticipation," is one of strict identity. To anticipate a claim, a patent or a single prior art reference must contain all of the essential elements of the particular claims. *Schroeder v. Owens-Corning Fiberglass Corp.*, 514 F.2d 901, 185 U.S.P.Q. 723 (9th Cir. 1975); and *Cool-Fin Elecs. Corp. v. International Elec. Research Corp.*, 491 F.2d 660, 180 U.S.P.Q. 481 (9th Cir. 1974).

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Independent claim 1 (amended), and its dependent claims 2, 5-8, and 13-17, are patentably distinguishable over the cited reference because claim 1 emphasizes the novel features of the present invention which automatically generate a frame for a digital image based on the subject matter of the image. In this regard, claim 1 specifies a method which includes:

“analyzing a portion of a first data set representing pixels of an unframed digital image so as to identify a plurality of image components each corresponding to a spatial region of the pixels;

independently analyzing each of the image components to determine a set of component characteristics for the corresponding image component;

collectively analyzing the plurality of sets of component characteristics to determine overall image characteristics indicative of subject matter of the unframed image;

analyzing the overall image characteristics to determine an image category corresponding to the subject matter;

determining at least one frame attribute by applying framing rules for the image category to the overall image characteristics; and

generating a second data set representing pixels of the framed digital image, the second data set defining a representation of the unframed digital image surrounded by a frame having the at least one frame attribute.”

The Jamzadeh reference describes an imaging apparatus that can “create a border color in one of the dominant colors of the multicolor image” it forms (Abstract). In the Jamzadeh reference, an RGB color space (Fig. 6) is “divided into a plurality of rectilinear solid areas (boxes) ... Each pixel of the image is considered, and the number of pixels of the image that fall within each box is determined. ... The number of pixels in the image which correspond to the combinations in each box are counted and stored. Once the entire image has been analyzed, the box containing the most pixels will be the most dominant color” (col. 4, ln. 48-67). The apparatus then can “select a color for the borders around images by choosing the color with the heaviest content, or with the second, or third, heaviest content. Many users would prefer that the borders be formed of a color that matches a particular color, in terms of brightness, hue, and saturation, that occurs in the image.” (col. 5, ln. 10-17)

The novel features of the present invention are not anticipated by the Jamzadeh reference in that the essential elements of “collectively analyzing the plurality of sets of

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component characteristics to determine overall image characteristics indicative of subject matter of the unframed image; analyzing the overall image characteristics to determine an image category corresponding to the subject matter; [and] determining at least one frame attribute by applying framing rules for the image category to the overall image characteristics” are absent from the Jamzadeh reference. Thus the Jamzadeh reference generates an image border based on a dominant image color, rather than generating the border based on the subject matter of the image as does Applicants’ invention. Therefore, the rejection has been overcome at least for that reason and should be withdrawn.

Independent claim 19 (amended), and its dependent claim 20, are patentably distinguishable over the cited reference because claim 19 emphasizes the novel features of an apparatus according to the present invention which automatically generates a frame for a digital image based on the subject matter of the image. In this regard, claim 19 specifies an image processing apparatus which includes:

“a component identifier adapted to receive a first data set of pixels representing an unframed digital image and identify a plurality of individual image components therefrom;
a component characterizer communicatively coupled to the component identifier for determining a set of component characteristics for each of the individual image components;
an image characterizer communicatively coupled to the component characterizer for determining overall image characteristics from the collective plurality of sets of component characteristics, the overall image characteristics indicative of subject matter of the unframed image;

an image categorizer communicatively coupled to the image characterizer for determining from the overall image characteristics an image category corresponding to the subject matter;

framing rules usable by the image categorizer to automatically define at least one frame attribute based on the image category and the overall image characteristics; and

a framed image generator for processing the first data set and the at least one image attribute so as to automatically generate a second data set having rows and columns of pixels representing a framed digital image including a representation of the unframed digital image surrounded by a visually attractive frame having the at least one frame attribute.”

For similar reasons as have been explained with regard to claim 1, the novel features of the present invention are not anticipated by the Jamzadeh reference in that the essential elements of “an image characterizer ... for determining overall image characteristics ...

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indicative of subject matter of the unframed image; an image categorizer ... for determining ... an image category corresponding to the subject matter; [and] framing rules ... to automatically define at least one frame attribute based on the image category and the overall image characteristics” are absent from the Jamzadeh reference. Thus the Jamzadeh apparatus generates an image border based on a dominant image color, rather than generating the border based on the subject matter of the image as does Applicants’ invention. Therefore, the rejection has been overcome at least for that reason and should be withdrawn.

Independent claim 22 (amended) is patentably distinguishable over the cited reference because claim 22 emphasizes the novel features of a program storage medium according to the present invention which, when executed by a computing apparatus, automatically generates a frame for a digital image based on the subject matter of the image. In this regard, claim 22 specifies:

“a first logical segment of the instructions configured to analyze a portion of a first data set representing pixels of the unframed digital image so as to identify a plurality of image components each corresponding to a region of the pixels;

a second logical segment of the instructions configured to independently analyze each of the image components to determine a set of component characteristics for the corresponding image component;

a third logical segment of the instructions configured to collectively analyze the plurality of sets of component characteristics to determine overall image characteristics indicative of subject matter of the unframed image;

a fourth logical segment of the instructions configured to analyze the overall image characteristics to determine an image category corresponding to the subject matter;

a fifth logical segment of the instructions configured to determine at least one frame attribute by applying framing rules for the image category to the overall image characteristics; and

a sixth logical segment of the instructions configured to generate a second data set representing pixels of the framed digital image, the pixels defining a representation of the unframed digital image surrounded by a frame having the at least one frame attribute.”

For similar reasons as have been explained with regard to claim 1, the novel features of the present invention are not anticipated by the Jamzadeh reference in that the essential elements of segments of instructions configured to determine overall image characteristics indicative of subject matter of the unframed image, determine an image category

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corresponding to the subject matter, and determine at least one frame attribute by applying framing rules for the image category to the overall image characteristics are absent from the Jamzadeh reference. Thus the Jamzadeh apparatus generates an image border based on a dominant image color, rather than generating the border based on the subject matter of the image as does Applicants' invention. Therefore, the rejection has been overcome at least for that reason and should be withdrawn.

Rejection Under 35USC Section 103

Claims 1 and 12 have been rejected under 35 USC Section 103 (a), as being unpatentable over U.S. patent 6,421,062 to Higashio in view of U.S. patent application publication 2001/0012062 by Anderson. Applicants respectfully traverse the rejection and request reconsideration based on the amendment to claims 1 and 12 and features in the claims which are neither disclosed nor suggested in the cited references, taken either alone or in combination.

Independent claim 1 (amended), and its dependent claim 12, are patentably distinguishable over the cited references because claim 1 emphasizes the novel features of the present invention which automatically generate a frame for a digital image based on the subject matter of the image. In this regard, claim 1 specifies a method which includes:

“analyzing a portion of a first data set representing pixels of an unframed digital image so as to identify a plurality of image components each corresponding to a spatial region of the pixels;
independently analyzing each of the image components to determine a set of component characteristics for the corresponding image component;
collectively analyzing the plurality of sets of component characteristics to determine overall image characteristics indicative of subject matter of the unframed image;
analyzing the overall image characteristics to determine an image category corresponding to the subject matter;
determining at least one frame attribute by applying framing rules for the image category to the overall image characteristics; and
generating a second data set representing pixels of the framed digital image, the second data set defining a representation of the unframed digital image surrounded by a frame having the at least one frame attribute.”

In the Higashio reference, in order to select an ornamental frame for an image from

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among a predetermined set of frames, predetermined event information is obtained from a content information section of the image data file, where it is separate from the image data itself (col. 1, ln. 35-58). If no event information is prestored in the image data file, an event may be selected as per the user's instructions (col. 6, ln 13-22). Unlike Applicants' claimed invention, the Higashio reference "does not disclose 'analyzing a portion of a first data set representing rows and columns of pixels of an unframed digital image'" (Office Action, p.10). Nor does the Higashio reference teach or suggest "independently analyzing ... the image components", "collectively analyzing ... the component characteristics", or "analyzing the overall image characteristics to determine an image category corresponding to the subject matter" of the unframed image, as claimed by Applicants.

The Anderson reference discloses a digital image capture device that analyzes a captured image file for selected criteria, and generates and stores category tags with the image file (para. [0026]-[0027]). The Anderson reference discloses that "analysis algorithms may be designed to detect a person or groups of people based on characteristics like substantial amounts of flesh tones", and that "analysis algorithms may likewise be designed to detect nature scenes from characteristics like substantial green content in the image combined with the relative lack of hard edges" (para [0049]). Further, the Anderson reference discloses that "categories like city images, water images or indoor images may be detected by characteristic features contained in those images" (para[0049]). However, while the Anderson reference states that such algorithms may be designed, it does not disclose how they could be designed. Specifically, the Anderson reference does not teach or suggest the novel features of Applicants' claimed method, which include "independently analyzing each of the image components to determine a set of component characteristics for the corresponding image component", "collectively analyzing the plurality of sets of component characteristics to determine overall image characteristics indicative of subject matter of the unframed image", or "analyzing the overall image characteristics to determine an image category corresponding to the subject matter" of the unframed image. Such features can be found only in Applicants' disclosure, and to read them into the Anderson reference constitutes impermissible hindsight.

Therefore, Applicants respectfully traverse the Office's assertion that it would have

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been obvious to a person of ordinary skill in the art at the time the invention was made to include the claimed features of Applicants' invention. Such could be possible only in hindsight and in light of Applicants' teachings. Therefore, the rejection is improper at least for that reason and should be withdrawn.

Claim 21 has been rejected under 35 USC Section 103 (a), as being unpatentable over U.S. patent 5,140,348 to Jamzadeh et al. ("Jamzadeh") in view of U.S. patent 5,600,412 to Connors. Applicants respectfully traverse the rejection and request reconsideration based on the amendment to its base claim 1 and features in the claims which are neither disclosed nor suggested in the cited references, taken either alone or in combination.

As discussed previously with regard to base claim 1, the Jamzadeh reference neither discloses nor suggests Applicants' claimed elements of "collectively analyzing the plurality of sets of component characteristics to determine overall image characteristics indicative of subject matter of the unframed image; analyzing the overall image characteristics to determine an image category corresponding to the subject matter; [and] determining at least one frame attribute by applying framing rules for the image category to the overall image characteristics". Nor does the frame generation system of the Connors reference disclose or suggest these claimed elements, either alone or in combination with the Jamzadeh reference. Therefore, dependent claim 21 is patentably distinguishable over the cited references at least for this reason, and the rejection should be withdrawn.

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Formalities**Objections**

Claim 14 was objected to for a lack of antecedent basis. Claim 14 has been amended in order to provide the proper antecedent basis, and Applicants respectfully request that the objection be withdrawn.

Conclusion

Attorney for Applicant(s) has carefully reviewed each one of the cited references, and believes that the claims presently on file in the subject application patentably distinguish thereover, either taken alone or in combination with one another.

Therefore, all claims presently on file in the subject application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication with Applicant's attorney would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned Robert C. Sismilich, Esq. at the below-listed telephone number.

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FOR THE ACCEPTANCE OF ANY NECESSARY FEES**

If any charges or fees must be paid in connection with the foregoing communication (including but not limited to the payment of an extension fee or issue fees), or if any overpayment is to be refunded in connection with the above-identified application, any such charges or fees, or any such overpayment, may be respectively paid out of, or into, the Deposit Account No. 08-2025 of Hewlett-Packard Company. If any such payment also requires Petition or Extension Request, please construe this authorization to pay as the necessary Petition or Request which is required to accompany the payment.

Respectfully submitted,



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